

I claim:

1. A breakaway bearing mount comprising:

a shaft, said shaft having a first end and a second end;

a frame having at least one receiving hole for receiving a shearing device therein;

a first shear plate defining at least one shear plate shearing hole adapted to receive the first shearing device, attached to a bearing assembly through a bearing assembly connection means;

a bearing assembly having a bearing assembly connection means, said bearing assembly able to be mounted to the shear plate through a bearing assembly connection means having a shear strength greater than the shear strength of the shearing device; wherein the shearing devices are configured to break before the bearing assembly connection means when the shaft is subjected to a predetermined minimum stress.

2. The breakaway bearing mount of claim 1 wherein said shearing device is at least one shear bolt having a corresponding shear nut.

3. The breakaway bearing mount of claim 1 wherein said shearing device is at least one shear pin having a closure.

4. The breakaway bearing mount of claim 1 wherein said bearing assembly connection means is at least one bearing bolt having a corresponding nut.

5. The breakaway claim mount of claim 1 further comprising:

a second shear plate defining at least one second shear plate shearing device hole, attached to said shear plate through use of at least one plate shearing device extending through at least one second shear plate shearing hole, and having a bearing assembly connecting means for connecting said second shear plate to the bearing assembly, wherein the shearing strength of the second shearing device is greater than the shearing strength of the first shearing device but less than the shearing strength of the bearing assembly connection means.

6. The breakaway claim mount of claim 1 wherein said bearing assembly further comprises:

a first bearing assembly portion defining a first plurality of bearing assembly bolt holes, the first bearing assembly portion able to be mounted to the first shear plate through the bearing assembly mounting means, the first bearing assembly rotatably supporting the first shaft end; and

a second bearing assembly portion defining a second plurality of bearing assembly bolt holes, said second bearing assembly portion able to be mounted to the first bearing assembly portion through a plurality of bearing assembly bolts extending through the second

plurality of bearing assembly bolt holes and the first plurality of assembly bolt holes, said second plurality of bearing assembly bolts able to be attached through use of a corresponding plurality of nuts, the second bearing assembly rotatably supporting said second shaft end.

7. The breakaway bearing mount of claim 6 in which said first and second shear plates further indicate a plurality of bolt head recesses for containment of bolt heads of the bearing assembly shear bolts.
8. The breakaway bearing mount of claim 7, wherein said first and second bearing assemblies are pillow block bearings.
9. The breakaway bearing mount of claim 6 wherein said first shear plate is mounted to said frame through use of a plurality of shear bolts extending through a plurality of shear bolt holes, and attached through use of a plurality of corresponding nuts.
10. The breakaway bearing mount of claim 1 further comprising a hammermill.
11. A combination comprising:
  - a rotatable shaft, said shaft having a first shaft end and a second shaft end;
  - a frame;

a first shear plate mounted to said frame through use of at least one plate shear bolt;  
a second shear plate mounted to said frame through use of at least one plate shear bolt;

a first bearing assembly mounted to said first shear plate through use of at least one bearing shear bolt, said first bearing assembly rotatably supporting said first shaft end; and

a second bearing assembly mounted to said second shear plate through use of at least one shear bearing bolt, said second bearing assembly rotatably supporting said second shaft end; wherein

said plate shear bolts are configured to a lesser shear strength rating than said bearing shear bolts, and in which said plate shear bolts are configured to break prior to the bearing shear bolts when subjected to a shearing force.

12. The combination according to claim 11, wherein said bearing assemblies are pillow block bearings.

13. The combination according to claim 12, wherein said shaft further comprises a hammermill.

14. A bearing assembly for use with a, rotatable shaft, said bearing assembly comprising:  
a shear plate mounted to a frame through use of at least one plate shear bolt;

a bearing mounted to said shear plate through use of at least one bearing shear bolt with a bolt head, said bearing rotatably supporting said shaft; wherein

said at least one shear plate bolt is configured to a lesser shear strength than said at least one bearing shear bolt, and said at least one plate bolt is configured to break before said at least one bearing shear bolt when subjected to a shear force.

15. The bearing assembly for use with a rotatable shaft of claim 14 in which said shear plate further includes a bolt head recess for each bearing shear bolt, for containment of bolt heads of said bearing assembly shear bolts.

16. The bearing assembly of claim 15, wherein said bearing is a pillow block bearing.

The bearing assembly of claim 15, wherein said shaft further comprises a hammermill.

17. A breakaway bearing mount, comprising:

a shaft, said shaft having a first shaft end and a second shaft end;

a frame defining at least one frame bolt hole for receiving at least one frame shear bolt;

at least one first shear plate defining at least one first shear plate bolt hole, wherein said first

shear plate is configured for attachment to said frame through use of said at least one frame shear bolt extending through said at least one frame bolt hole and said at least one first shear plate bolt hole, and use of a nut, and said first shear plate further defining at least one lower second shear plate bolt hole, for receiving a second shear plate bolt;

at least one second shear plate defining at least one upper second shear plate bolt hole wherein said second shear plate is configured for mounting to said at least one first shear plate through use of said at least one second shear plate bolt extending through said lower and upper second shear plate bolt holes and connecting said first and second shear plates with at least one second shear plate bolt and at least one nut, said second shear plate further defining at least one lower first second plurality of bearing assembly bolt holes;

a first bearing assembly defining a third plurality of bearing assembly bolt holes, said first bearing assembly able to be mounted to said first shear plate through a first plurality of bearing assembly bolts extending through said third plurality of bearing assembly bolt holes and said first plurality of bearing assembly bolt holes and able to be attached through use of a third plurality of nuts, said first bearing assembly rotatably supporting the first shaft end; and

a second bearing assembly defining a fourth plurality of bearing assembly bolt holes, said second bearing assembly able to be mounted to said second shear plate through a second plurality of bearing assembly bolts extending through said fourth plurality of bearing assembly bolt holes and said second plurality of bearing assembly bolt holes and able to be

attached through use of a fourth plurality of nuts, said second bearing assembly rotatably supporting said second shaft end; wherein

said shear bolts are configured to a lesser shear rating than said bearing assembly shear bolts and said shear bolts are configured to break before said bearing assembly shear bolts when said shaft is subjected to a predetermined minimum stress.

18. The breakaway shaft bearing mount of claim 19 wherein said first and second shear plates further include a plurality of bolt head recesses for containment of bolt heads of said bearing assembly shear bolts.